



PI Recommendation

Ken Johnston
Principal Investigator
USNO
202-762-1513
kjj@astro.usno.navy.mil



Desired Approach



- **Proceed with Phase C/D**
- **Advantages**
 - **Keeps team together**
 - **Close to original schedule**
 - **No loss of momentum**
- **Disadvantages**
- **Technical Risks not Retired in Phase B**
 - **Optics/Centroiding**
 - **CCDs**



Cost Limitations



- **FAME Team Has Not Secured Commitments From All Outside Sources of Funding**
 - **Funding Is Available in Out Years**
 - **Letters of Commitment From All Sources Have Not Been Negotiated**
- **Funding Is Not Available in the Explorers Office to Continue FAME at Required Funding Levels**



Suggested Approach



- **One Year [10 Month] Delay in Program**
 - **Limited Funding**
- **Allows:**
 - **PI to Secure Commitments From Other Sources**
 - **DoD**
 - **Determine If Excess Launch Vehicle Mass Can Be Used by Other Experiments/systems**
 - **Continued Development of Critical Items**
 - **CCD Development**
 - **Optics Development**
 - **Finish Design/analysis of 7925-10 Version of S/C Bus**
 - **Science Data Pipeline**
 - **Key in Tying Optical Performance to Final Product**
 - **Flight Software/Algorithm Development**



Risk Mitigation



- **Technical Risk**
 - **Instrument CCDs and Optics**
 - **Instrument Software Development**
 - **Operations Algorithm Development**
- **Cost Risk**
 - **Commitments for Additional Funding**



Assumptions



- **10 Month Delay**
 - **Delta PDR/Confirmation Review to be held Late August (TBD)**
- **Phase B extended thru September 30, 2002**
- **Phase C/D begins in October '02 (TBD)**
 - **To begin when NASA/DoD funds become available in FY03**
- **New Launch Date:**
 - **September 30, 2005**



Recommended Funding for Remainder of FY02



WBS ELEMENT	FY02
1.0 (PM)	750
2.0 (GND Dev)	1400
3.0 (Science)	100
4.0 (Inst)	10500
5.0 (S/C Bus)	4000
6.0 (Sys Int)	0
7.0 (LV Spt)	0
8.0 (Ops)	0
9.0 (E/PO)	100
TOTAL	16850



Prospects for DoD Funding



- **USNO has DoD mission for Astrometry**
- **Improved star positions needed**
- **Many potential funding sources**
- **Present commitment \$14.5 M in outyears**



Mission Success



- **Open Team Communication**
- **Aggressively identify and address potential problems**
 - **CCDs**
 - **Optics**
 - **Instrument software**
 - **CCD electronics interface**
- **Mass no longer a problem**
- **Delay takes optics and CCDs off critical path**



Science Drivers



- **Fundamental Data for Astronomy & Physics**
 - **Extragalactic Distance Scale**
 - **Galactic Structure and Evolution**
 - **Brown Dwarfs and Giant Planets**
 - **Star Forming Regions**
 - **Stellar Masses**
 - **Reference Frames**



Summary



- **Delay Phase C Oct 02**
- **Fund mission at critically reduced level**
- **USNO to obtain commitments for funding in outyears**